Electrolux

SERVICE MANUAL

WASHING



TC3	TC2
	

Customer Care - EMEA
Training and Operations Support
Technical Support

Publication number

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EN

Washing machines with electronic control system

EWM10931

Functional characteristics

INSPIRATION RANGE

TC3 TC2

Edition: 04/2012 - Rev. 00

INDEX

1 PURPOSE OF THIS MANUAL

The purpose of this manual is to provide service engineers who are already familiar with the repair procedures for traditional washing machines with information regarding washing machines fitted with the EWM/WD10931 electronic control system.

Previous platforms (electronic/mechanical) used a safety pressure switch which controlled the minimum water level in the tub, beneath which the supply to the heating element was interrupted.

The current electronic appliances manufactured (EWM/WD10931 platform), use a heating element with thermal fuses (inside its branches) for safety, which interrupt in case of temperature overload caused by the water level dropping below the minimum level permitted.
The incorporated NTC probe contacts have a 2.5 mm pitch.

The manual deals with the following topics:

- General characteristics
- Control panel and compatibility between washing programmes and options
- Settings: Demo, Diagnostics
- Alarms
- Technical and functional characteristics
- Accessibility

Low consumption mode

In order to reduce electricity waste when the cycle is not running, the appliances on this platform are designed to enter consumption reduction mode:

“Stand-Off” mode

When the appliance is switched off at the ON/OFF button, it is in the “Stand-Off” or “virtual” off status. The LEDs and the LCD screen are turned off and the sensors are disabled, although the main circuit board and certain electrical components are electrically powered.

“Auto-off” mode

If, after 5 minutes, during the programme selecting phase or after the end of the cycle, the appliance receives no further instructions, it is automatically turned off (for energy savings in conformity with the standards on energy consumption).
All the settings are stored so that when the appliance is turned back on, the programme is ready or if the auto-off mode was triggered after the end of the cycle, the user can see that the cycle ended normally, and can restart it if necessary.

You have to unplug the appliance to cut off the power supply

“Zero Watt” mode

Some appliances are fitted with a circuit (in the main circuit board) called Zero Watt (0 Watt with an actual consumption ~50 mW) which cuts off the power supply to the appliance:

a. When you press the ON/OFF button to turn off the appliance, the Zero Watt circuit is triggered and cuts off the supply voltage after a few seconds, just long enough to secure the washing machine (motor off, door locked, etc.), the cycle and any options selected are reset, so that the next time the appliance is turned on, it is ready to perform the programme.
(To open the door, you will have to wait one or two minutes for the door safety lock to be released).

b. If, after 5 minutes, during the programme selecting phase or after the end of the cycle, the appliance receives no further instructions, it is automatically turned off and the Zero Watt circuit which cuts off the supply voltage is triggered (for energy savings in conformity with the standards on energy consumption).
All the settings are stored so that when the appliance is turned back on, the programme is ready or if the auto-off mode was triggered after the end of the cycle, the user can see that the cycle ended normally, and can restart it if necessary.

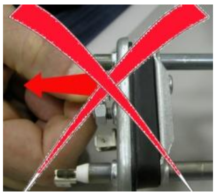
If an alarm goes off when a wash programme is running, the automatic turn off is disabled showing the alarm.

2 WARNINGS



- **Any work on electrical appliances must only be carried out by qualified technicians.**
- **Before servicing an appliance, check the efficiency of the electrical system in the home using appropriate instruments. For example: refer to the indications provided/illustrated in the <<metratester>> course at the address (http://electrolux.edvantage.net) on the Electrolux Learning Gateway portal.**

  On completing operations, check that the appliance has been restored to the same state of safety as when it came off the assembly line.
- **If the circuit board has to be handled/replaced, use the ESD kit (Code 405 50 63-95/4) to avoid static electricity from damaging the circuit board, see S.B. No. 599 72 08-09 or consult the course <<Electrostatic charges>> at the address (http://electrolux.edvantage.net) on the Electrolux Learning Gateway portal.**
- **This platform is not fitted with an ON/OFF switch. Before you access internal components, take the plug out of the socket to cut the power supply.**
- **Make resistance measurements, rather than direct voltage and current measurements**
- **Warning the sensors located on the display board could be at a potential of 220 Volts.**
- **When replacing the heating element, replace it with one that has the same characteristics (2 thermal fuses) in order not to compromise the safety of the appliance. Do not remove/switch the NTC sensors between heating elements.**



- **Always empty the appliance of all the water before laying it on its side (see the relevant paragraph).**
- **Never place the appliance on its right side (electronic control system side): some of the water in the detergent dispenser could leak onto the electrical/electronic components and cause these to burn.**
- **When replacing components, please refer to the code shown in the list of spare parts relating to the appliance.**

3 TC3 STYLING

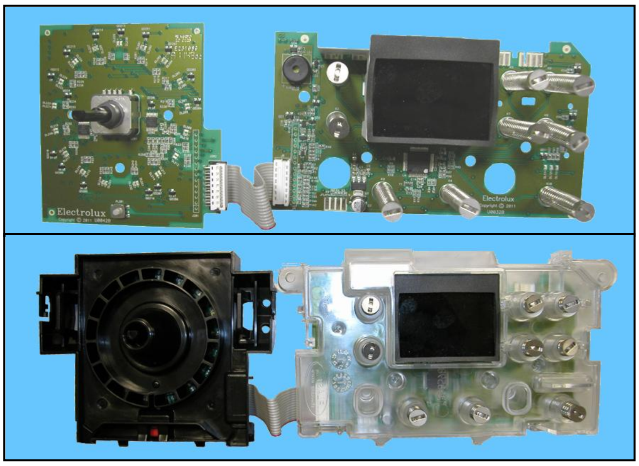
3.1 General characteristics

The TC3 styling has a single ON/OFF button, all the other choices/adjustments are made by skimming your finger over the touch sensors, which replace the buttons used so far.

In the event of problems with the touch sensors (difficulty selecting/adjusting them), clean and dry the display and do not wear gloves when setting the chosen programme.

The EWM/WD10931 electronic control system consists of two circuit boards plus the motor control system (inverter) for washing machines.

- The control/display circuit board, inserted in a plastic box, secured to the control panel (the figure illustrates: the display board with the side socket in which the selector is fixed, connected together by a flat cable, and the display board assembly).



- The main circuit board is positioned at the rear of the appliance and receives commands from the display board, powers the electrical components as well as communicating with the motor control board (Inverter).

3.1.1 General WM characteristics

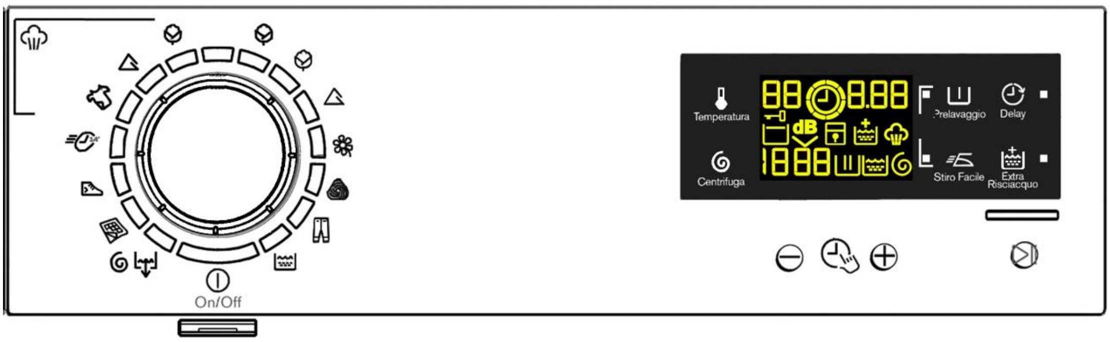
No. of buttons	▪ Max 1 (ON/OFF)
No. of sensors	▪ Maximum 9 (8 options + 1 start/pause)
No. LEDs	▪ Maximum 22 + LCD
Programme selector	▪ 14 positions (incorporated in the circuit board)
Serial port	▪ DAAS-EAP communication protocol up to 115,200 baud
Power supply voltage	▪ 220/240 V ▪ 50/60 Hz (configurable)
Washing type	▪ Traditional with “Eco-ball” ▪ Jet-System
Rinsing system	▪ Traditional with “Eco-ball” ▪ Jet-System
Motor	▪ Two-pole asynchronous (three-phase), with tachometric generator
spin speed	▪ 400÷1,600 rpm
Anti-unbalancing system	▪ AGS
Cold water fill	▪ 1 solenoid valve with 1 inlet – 2 or 3 outlets
Hot water filling	▪ 1 solenoid valve with 1 inlet – 1 outlet
Detergent dispenser	▪ 3 compartments: pre-wash/stains, wash, conditioner ▪ 4 compartments: prewash, wash, stain remover and conditioners
Control of water level in the tub	▪ Electronic/analogue pressure switch
Door safety interlock	▪ Instantaneous
Heating element heat output	▪ 1,950 W with thermal fuses incorporated
Temperature check	▪ NTC probe incorporated in the heating element
Buzzer	▪ Traditional incorporated in the PCB
Sensors	▪ Water fill gauge (2÷12 l/m flowmeter) ▪ Water control

3.1.2 Control panels

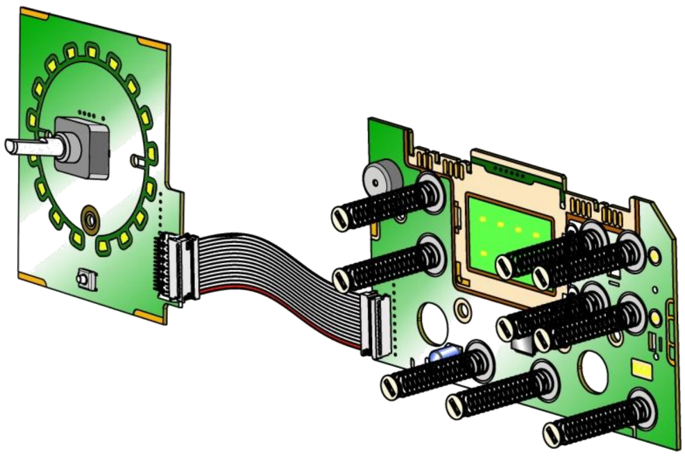
3.1.3 Styling

- Max. 1 Button
- Max. 9 sensors
- 14 position programme selector
- 22 LEDs
- 1 LCD

Version WM

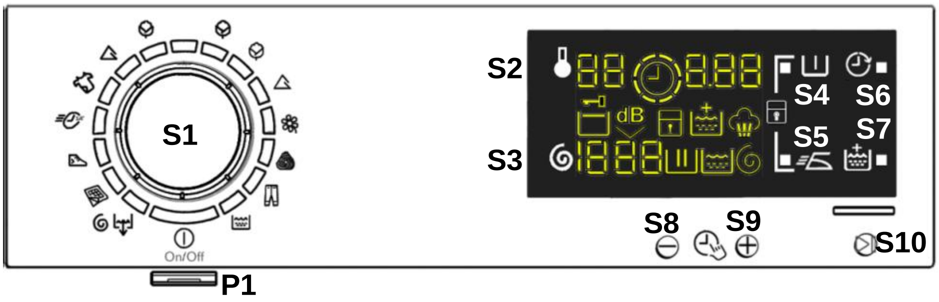


- Positioning of LEDs and sensors



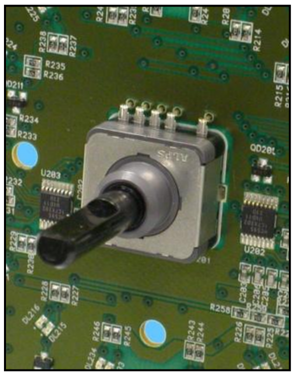
3.1.4 Control panel configuration

The description below applies to both versions (washing machines and washer dryers), unless specified with Washing machines or Washer Dryers.

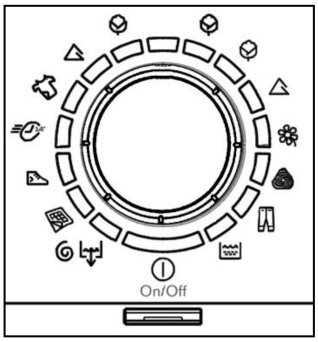


The washing programmes, the functions of the selector knob (where featured) and the various sensors vary according to the model, since these are determined by the configuration of the appliance.

3.1.4.1 Programme selector (S1)



The selector used is of the HI-FI type (the dial has no index and no reset position, the programme selected is indicated by the fact that the corresponding LED lights up). The number of positions cannot be configured. There are always 14 (in all stylings) and they are bound to the number of LEDs that indicate the washing programmes.
The programmes can be configured to perform different washing cycles (e.g.: water level, drum movement, no. of rinses and the washing temperature to be selected according to the type of garments).
The selector can be turned both clockwise and anti-clockwise.
For each programme, the compatible options and other parameters are defined.



3.1.4.2 Programme configuration

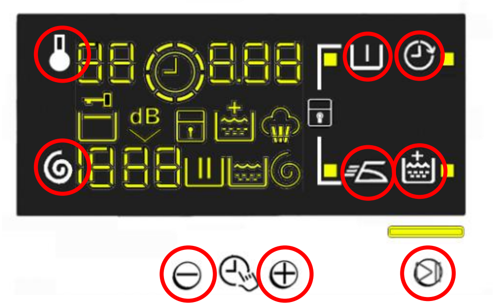
The table below lists the parameters that can be used to define the washing programmes.

Types of fabric	Cotton/linen, Synthetic fabrics, Delicates, Wool, Hand-wash, Shoes, Jeans, Duvet, Silk.
Special programmes	Soak, Miniprogramme, Easy-Iron, Conditioner, Rinses, Delicate rinses, Drain, Delicate spin, Spin, Drying.
Temperature	Normal, Maximum: the initial temperature is the one set for the washing programme selected.
Spin	Normal, Minimum, Maximum
Options (Normal/Possible)	Rinse Hold, Night Cycle, Pre-wash, Stains, Extra Rinse, Easy-Iron, Time Manager 1/2/3/4/5/6/7/8, Reduced Spin Speed, No Spin, Steam, Drying.
Programme phases	Pre-wash, Wash, Rinses, Spin, Delay Start, Dryness.

3.1.4.3 Sensors

The function of each touch sensor is defined via the configuration of the appliance (the data and images are for guidance only).

The touch sensors are positioned under the silk-screen printed symbols on the control panel (circled here in red).



A light touch on the centre of the symbol is enough to activate/deactivate the function linked to the sensor with the switching on/off of the relative Led confirming that the enabling/disabling has taken place.

Simultaneously to the enabling/disabling of the options, the cycle duration time is updated via the digits.

You need to keep your finger pressed down for a longer period of time with the Start/Pause sensor to confirm both the cycle's start and pause, in order to avoid unwanted starts or accidental pauses.

Every time you touch a sensor, you need to lift your finger up by a centimetre and half a second needs to elapse before touching it again, otherwise the electronic system does not recognise that the sensor has been touched for a second time.

The sensors used for adjusting the: Temperature, Spin, delayed Start and Time Manager have a continued variation of values as long as your finger is in contact with the sensor.

3.1.4.4 Sensors – LEDs and LCD

The functions of each button are defined by the configuration of the appliance.

- **Button no. 1**: ON/OFF – ON
  This button is always included in all three stylings.
  – Press it to turn the appliance on, at the same time the buzzer will sound a tone (if enabled), all the LEDS around the selector dial will light up for an instant and the LCD display stays off (figure above). When the initial phase has ended, only one LED remains lit and the LCD display shows the basic settings of a programme (figure below).

The operation of the ON/OFF depends on the configuration of the main circuit board. It can cut the appliance off from the electricity mains completely (0 Watt circuit) or set the appliance to low energy consumption mode (without 0 Watt circuit) in which case you will need to take the plug out of the socket to cut off the electricity supply completely.
Press the ON/OFF button to cancel the chosen programme.



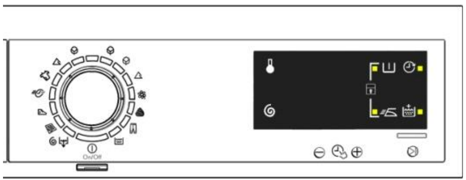
P1



- **Button no. 1**: ON/OFF – OFF
  – To turn the appliance off, press this button and hold it down for approximately 1 second, after this time the buzzer will sound a tone (if enabled), all the LEDS around the selector dial will light up for an instant (figure above), the LCD display shows the programme settings, then the following switch off: the LEDS around the selector dial, the Start/Pause LED, the LCD display (figure below).



P1

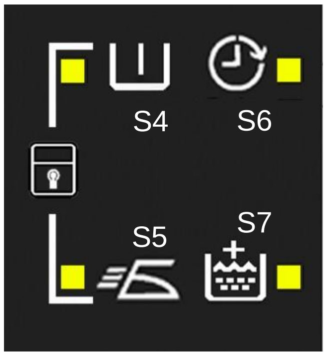
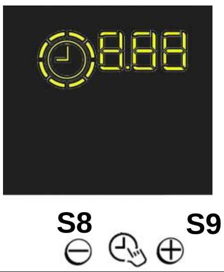
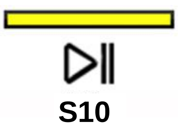


- **Sensor no. 2**: TEMPERATURE
  This is related to the part of the LCD display in which the washing cycle temperature is shown.
  The starting temperature shown on the LCD display is the one set for the programme selected.
  Touch the sensor (represented by the thermometer symbol) in sequence to lower the temperature. Once the lowest temperature has been reached, the selection starts off again from the highest one available for that particular programme.

The temperatures available (displayed in °C) are:
90°C, 60°C, 50°C, 40°C, 30°C, 20°C, cold cycle.

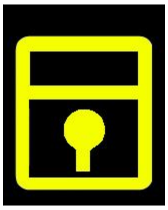
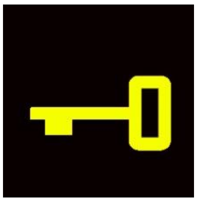
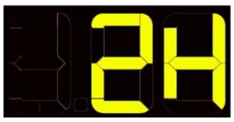
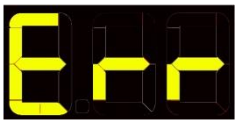
The cold cycle is displayed by two dashes  .

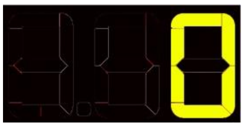
S2 

• **Sensor no. 3**: SPIN SPEED This is related to the part of the LCD display in which the washing cycle spin speed is shown. The starting speed shown on the LCD display is the one set for the programme selected. Touch the sensor (represented by the spin cycle symbol) in sequence to lower the speed; once the lowest speed has been reached, the next selections are: ➢ "Rinse hold" and the related symbol lights up (where compatible with the chosen programme, and it also lights up during the "Extra silent" programme in the washer-dryer). ➢ "Night cycle" and the related symbol lights up (not available in the washer-dryer). The next selection will be the highest speed available for the programme. The spin speeds are: 1,600–1,400–1,200–1,000–800–600–400–0 "No Spin", "Rinse Hold" and "Night Cycle". When no speed is selected, or one of the following cycles is selected: "No Spin", "Rinse Hold" and "Night Cycle", the LCD display shows three dashes _ _ _ .	S3 
• **Sensor nos. 4-5-6-7**: OPTION (configurable) Each of the sensors located on the right hand side of the LCD display can be combined with a LED and are used to choose one of the following options: Delayed Start Super rinse Easy Iron Pre-wash Hot and cold water (only TC3 WM where featured) Automatic drying (washer-dryer only) (see options) Time-controlled drying (washer-dryer only) (see options) Depending on the option/choices, the programme duration time is updated (via the three digits).	
• **Sensor nos. 8-9**: These two sensors are positioned under the display and act as: Time manager Allowing the end user to lengthen or shorten the washing cycle duration, this adjustment should be done after setting the temperature value and the spin speed.	
• **Sensor no. 10**: This sensor has the START/PAUSE function, used to start up a washing programme, after selecting the washing cycle and required options; it can also pause a cycle that has already started: to allow you to change selected option or open the door (if the temperature conditions or water level allow for this). The cycle re-starts if you touch the sensor again. The LED combined with this sensor flashes slowly: in the selection phase, during the pause and at the end of a cycle with water in the tub. It stays lit when a cycle is running and turns off when the cycle has ended and the door is unlocked. While other sensors when touched immediately change from selected to de-selected, in the case of this sensor, more time is needed to avoid unwanted cycle start ups or pauses.	

LCD

The information described below also appears on the LCD:

Washing Machine The three icons shown have the following meanings, respectively: – Wash  – Rinse  – Spin  They are lit during the setting phase to display which phases are included in the programme. During the programme the icon for the phase in progress flashes, and when the phase has ended it remains lit continuously. The same applies when the machine is in pause during the cycle.	
• **Padlock**: The icon lights up when the “child lock” is on. To indicate that all the sensors are disabled to prevent children from modifying, starting or pausing the cycle. Touch any sensor or turn the selector dial during its activation and the icon will flash. A sensor combination needs to be pressed to activate/deactivate it. It may be silk-screen printed on the control panel or described in the instruction manual.	
• **Door closed sensor**: Lights up when the safety device stops door opening and switches off when the door can be opened. Flashes when the device is about to unlock the door (with door interlock with PTC, which needs one/two minutes to open).	
• **Washing programme time**: This appears after a washing programme has been selected. This time corresponds to the time required for the maximum wash load for each type of programme. After the programme has started, the time decreases (and is updated) minute by minute.	
• **Delayed Start**: Selected on the related sensor. After the START/PAUSE sensor is touched, the countdown starts and the delay time decreases hour by hour, from a minimum delay of 2 hours to a maximum of 20 hours (☞ 30’ ☞ 60’ ☞ 90’ ☞ 2hrs ☞ 3hrs... ☞ 20h ☞ 0h). During the last 2 hours, it decreases by 30 min. at a time. During the delayed start, the LED beside the silk-screen printed symbol on the front panel  remains permanently lit.	
• **Selection incorrect**: Displays the flashing message “**Err**”, for one second. Appears on selecting option that is incompatible with the programme selected, or when the selector is turned while a cycle is running.	

• **End of cycle**: **End of the programme** is indicated by **a permanently lit zero** (when the door can be opened). • **Appliance stopping with water in the tub**, at the end of Programmes with the RINSE HOLD option, this is displayed by **a permanently lit zero.** The LED indicating the door remains on and the LED of the START/PAUSE sensor is turned off. The washing machine continues to operate, rotating the drum once every 2 minutes.	
• **Alarm code**: Indicates an anomaly during operation of the machine. Simultaneously to the displaying of the code on the LCD display, the LED above the START/PAUSE sensor flashes.	
• **Calculate amount of washing**: Only for appliances with PROPORTIONAL programmes After starting the washing programme the dot starts to flash. At this point the washing machine calculates the amount of washing inside the drum. When this phase ends the dot lights up fixed and the three digits display the programme time.	
• **Extra-rinse**: Appliances which do not feature the button and related LED for the Extra rinse option can enable/disable this option by pressing a sensor combination (which may be silk-screen printed on the control panel or described in the instruction manual). This option is enabled/disabled during programme selection and is confirmed by the related symbol being turned on/off. The option remains enabled even after the appliance has been turned off (for subsequent programmes).	

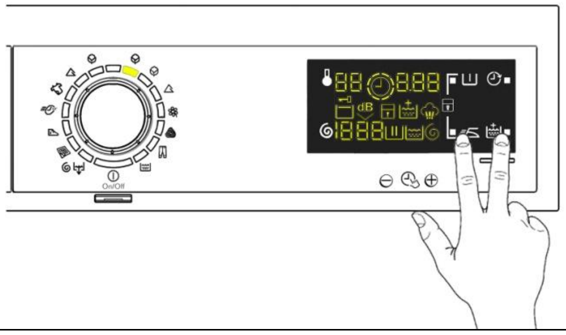
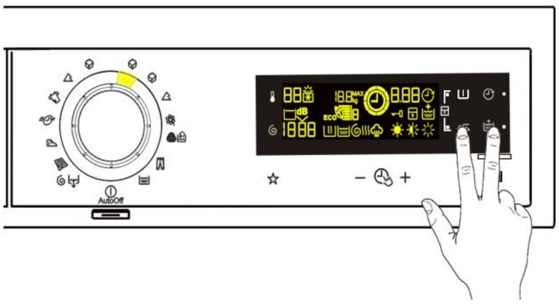
3.1.4.5 Buzzer

This comprises a multi-tone buzzer and sounds in the following cases:
- When the machine is turned on and off it emits two different tunes.
- When a button is pressed it emits a short “**Click**”
- When the cycle ends, this is indicated by a special sequence of “**three long beeps**” repeated at intervals of 15” for a total of 2 minutes.
- In the event of an appliance malfunction, this is indicated by a special sequence of “**three short beeps**” repeated three times at 20” intervals for 5 minutes.

All appliances are fitted with the buzzer, and leave the factory with the option enabled. To disable it use the combination of sensors.
The volume level is set in the factory and cannot be adjusted by the user.

When the buzzer is disabled (using the combination of sensors) it only emits the short “**Click**” and the sequence of “three short beeps” **when an alarm is triggered**.

During the programme selection phase, the buzzer can be enabled/disabled with a sensor combination (which may be silk-screen printed on the control panel or described in the instruction manual), but the alarm signalling remains enabled.

TC3	TC2
	

To enable it, touch the sensors simultaneously for 5 seconds. A short beep will confirm that it has been enabled, whereas two short beeps will confirm that it has been disabled.

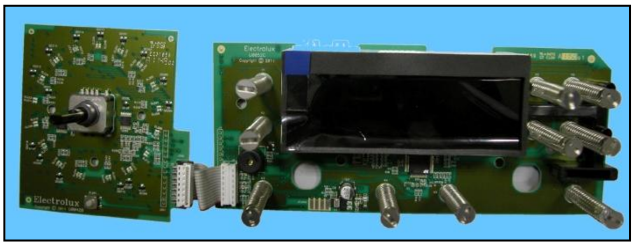
4 TC2 STYLING

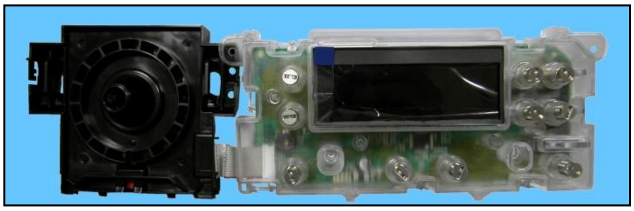
4.1 General characteristics

The TC2 styling has a single ON/OFF button, all the other choices/adjustments are made by skimming your finger over the touch sensors, which replace the buttons used so far.

In the event of problems with the touch sensors (difficulty selecting/adjusting them), clean and dry the display and do not wear gloves when setting the chosen programme.

The EWM/WD10931 electronic control system consists of two circuit boards plus the motor control system (inverter) for washing machines.





- The control/display circuit board, inserted in a plastic box, secured to the control panel (the figure illustrates: the display board with the side socket in which the selector is fixed, connected together by a flat cable, and the display board assembly).

- The main circuit board is positioned at the rear of the appliance and receives commands from the display board, powers the electrical components as well as communicating with the motor control board (Inverter).

4.1.1 General WM characteristics

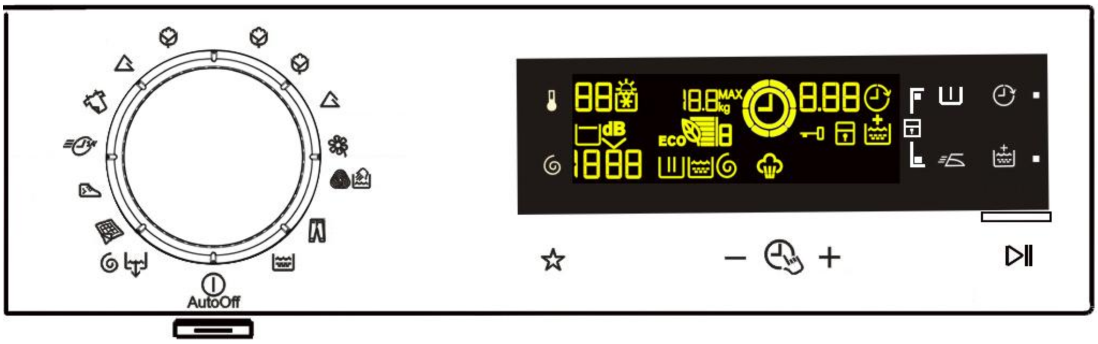
No. of buttons	▪ Max 1 (ON/OFF)
No. of touch sensors	▪ Maximum 10 (9 options + 1 start/pause)
No. LEDs	▪ Maximum 22 + LCD
Programme selector	▪ 14 positions (incorporated in the circuit board)
Serial port	▪ DAAS-EAP communication protocol up to 115,200 baud
Power supply voltage	▪ 220/240 V ▪ 50/60 Hz (configurable)
Washing type	▪ Traditional with “Eco-ball” ▪ Jet-System
Rinsing system	▪ Traditional with “Eco-ball” ▪ Jet-System
Motor	▪ Two-pole asynchronous (three-phase), with tachometric generator
spin speed	▪ 400÷1,600 rpm
Anti-unbalancing system	▪ AGS
Cold water fill	▪ 1 solenoid valve with 1 inlet – 2 or 3 outlets
Hot water filling	▪ 1 solenoid valve with 1 inlet – 1 outlet
Detergent dispenser	▪ 3 compartments: pre-wash/stains, wash, conditioner ▪ 4 compartments: prewash, wash, stain remover and conditioners.
Control of water level in the tub	▪ Electronic/analogue pressure switch
Door safety interlock	▪ Instantaneous
Heating element heat output	▪ 1,950 W with thermal fuses incorporated
Temperature check	▪ NTC probe incorporated in the heating element
Buzzer	▪ Traditional incorporated in the PCB
Sensors	▪ Water fill gauge (flowmeter from 2÷12 l/m) ▪ Water control ▪ Drum position

4.2 Control panels

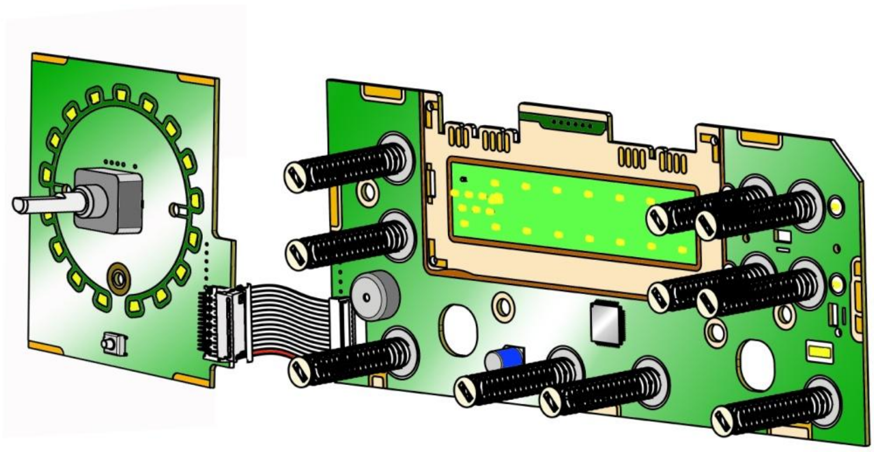
4.2.1 Styling

- Max. 1 Button
- Max. 10 sensors
- 14 position programme selector
- 22 LEDs
- 1 LCD

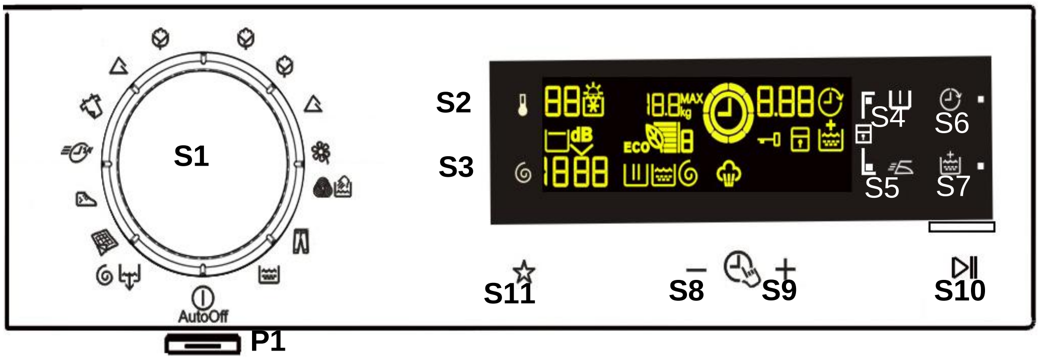
4.2.1.1 Version WM



- Positioning of LEDs and sensors



4.2.1.2 Control panel configuration



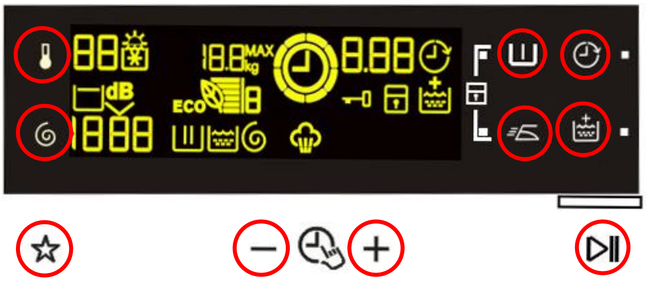
The washing programmes, the functions of the selector knob (where featured) and the various sensors vary according to the model, since these are determined by the configuration of the appliance.

4.2.1.3 Programme selector (S1)
Description: see para. 3.1.4.1

4.2.1.4 Programme configuration
Description: see para. 3.1.4.2

4.2.1.5 Sensors
The function of each touch sensor is defined via the configuration of the appliance (the data and images are for guidance only).

The touch sensors are positioned under the silk-screen printed symbols on the control panel (circled here in red).



A light touch on the centre of the symbol is enough to activate/deactivate the function linked to the sensor with the switching on/off of the relative Led confirming that the enabling/disabling has taken place.

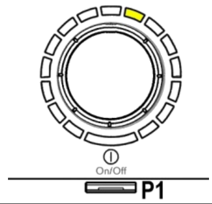
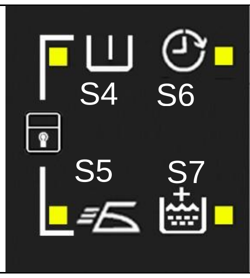
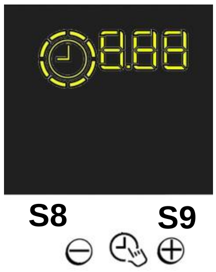
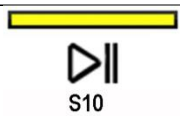
Simultaneously to the enabling/disabling of the options, the cycle duration time is updated via the digits.

You need to keep your finger pressed down for a longer period of time with the Start/Pause sensor to confirm both the cycle's start and pause, in order to avoid unwanted starts or accidental pauses.

Every time you touch a sensor, you need to lift your finger up by a centimetre and half a second needs to elapse before touching it again, otherwise the electronic system does not recognise that the sensor has been touched for a second time.

The sensors used for adjusting the: Temperature, Spin, delayed Start and Time Manager have a continued variation of values as long as your finger is in contact with the sensor.

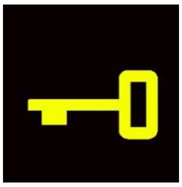
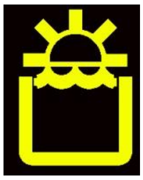
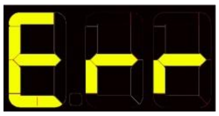
Sensors – LEDs and LCD
The functions of each button are defined by the configuration of the appliance.

• **Button no. 1**: ON/OFF Description: see **Button no. 1** on page 14	
• **Sensor no. 2**: TEMPERATURE See description on page 14 The only difference from the TC3 version is the representation of the cold cycle, which is represented by the cold symbol and by two dashes to replace the Digits.	
• **Sensor no. 3**: SPIN SPEED This is related to the part of the LCD display in which the washing cycle spin speed is shown. The spin speed displayed initially is that configured for the chosen programme. Touch the sensor (represented by the spin cycle symbol) in sequence to lower the speed; once the lowest speed has been reached, the next selections are: ➢ ”Rinse Hold” and the related symbol lights up (where compatible with the chosen programme). ➢ “Night cycle” and the related symbol lights up dB. The next selection will be the highest speed available for the programme. The spin speeds are: 1,600–1,400–1,200–1,000–800–600–400–0 “No Spin”, “Rinse Hold” and “Night Cycle”. When no speed is selected, or one of the following cycles is selected: “No Spin”, “Rinse Hold” and “Night Cycle”, the LCD display shows three dashes - - - .	
• **Sensor nos. 4-5-6-7**: OPTION (configurable) See Sensor nos. 3.1.4.3	
• **Sensor nos. 8-9**: (configurable) See Sensor nos. 8-9 3.1.4.3	
• **Sensor no. 10**: START/PAUSE See Sensor no. 10 3.1.4.3	

• **Sensor no. 11**: STORING A PROGRAMME This sensor is located beneath the sensor used to adjust the spin speed, allowing the user to store or recall a customised programme. When the selected programme has been optimised with the desired options, it can be stored in the memory, by touching the related sensor for approximately 3 seconds. The buzzer “beeps” once, and simultaneously the LCD display shows  flashing, to confirm the saving. This operation must be performed before you start the wash cycle. To recall the stored programme, simply touch the sensor, simultaneously the LCD display shows the stored programme with the chosen options; if no programme was stored in the memory, the LCD display does not show any change. To make changes to the stored programme, simply: recall the programme, make the changes and touch the sensor for three seconds, as described previously to store the changes.	 **S11**

- **LCD**

The information described below also appears on the LCD:

• **Programme phases**	
• **Padlock**	
• **Door closed sensor**	
• **Hot Water**: It lights up when the possibility of filling water through the related solenoid valve is enabled.	
• **Washing programme time**	
• **Delayed Start**: Selected on the related sensor. After START/PAUSE or the sensor is touched, the countdown starts and the delay time decreases hour by hour, from a minimum delay of 2 hours to a maximum of 20 hours (☞ 30’ ☞ 60’ ☞ 90’ ☞ 2hrs ☞ 3hrs... ☞ 20h ☞ 0h). During the last 2 hours, it decreases by 30 min. at a time. Touch the sensor in sequence to increase the delay by 30’ up to 2 hours, whereas from 2 hours to 20 hours, the increase is of 1 (one) hour. During the programme selection phase, a delayed start is possible of between 30’ and 20 hours (30’ ☞ 60’ ☞ 90’ ☞ 10h ☞ 11h… ☞ 20h ☞ 0h) and the time is shown on the LCD display during the last hour, the time decreases minute by minute. To cancel the delayed start time, after the cycle has started, pause the washing machine using the related sensor and cancel the option.	
• **Selection incorrect**	
• **End of cycle**	
• **Alarm code**	

• **Extra-rinse**: Appliances which do not feature the sensor and related LED for the Extra rinse option can enable/disable this option by pressing a sensor combination (which may be silk-screen printed on the control panel or described in the instruction manual). This option is enabled/disabled during programme selection and is confirmed by the related symbol being turned on/off. The option remains enabled even after the appliance has been turned off (for subsequent programmes).	
• **Steam**	
• **Eco Manager**: Displays how economical the wash cycle is according to the Time Manager level. Displaying the value through the number of horizontal bars lit, in an interval of between 2÷6, where 6 is the maximum and 2 is the minimum economy.	

4.2.1.6 Buzzer

Description: see para. 3.1.4.5

4.2.2 Time Manager and Eco Manager

The Time Manager is an option available in programmes for Cotton, Synthetics and Delicates and it is teamed with the Eco Manager.

During the washing programme selection phase, the icons shown below light up in the display, if the selected programme manages it.



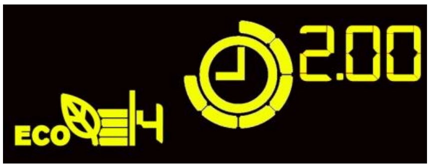
The Time Manager is represented on the right-hand side of the LCD display, and it consists of: eight segments surrounding the clock and three digits, which indicate the duration of the washing cycle.

The Eco Manager is represented on the left-hand side of the display, and it consists of: a leaf, six horizontal bars and a number, which show the economy level of the chosen programme, depending on the Time Manager selection. The higher the number and the more bars displayed, the more economical the programme.

For the Cotton and Synthetics programmes, there are 8 Time Manager levels; level 6 is set by default by the appliance, so the end user can reduce it by 5 levels to achieve a shorter cycle or increase it by 2 levels to achieve a more economical but longer cycle.
There are 8 Time Manager levels for the Delicates programmes too, but the end user can only reduce it by 3 levels.

There is no Time Manager in the "Cotton Eco" programme (Energy Label), however all 8 segments are displayed when this programme is selected; four are turned off when the Time Manager sensor is pressed just once to reduce the time.

This table shows the relationship between the Time Manager and the Eco Manager.

Time Manager level 8 Maximum washing cycle time Maximum economy level	
Time Manager level 7 Increases the cycle time Increases the economy level	
Time Manager level 6 Default washing cycle Default economy cycle	
Time Manager level 1 Minimum washing cycle time The lowest economy level	

4.2.2.1 Time Manager summary table

This table shows: the Time Manager levels and the corresponding icon shown on the LCD display depending on the fabrics.

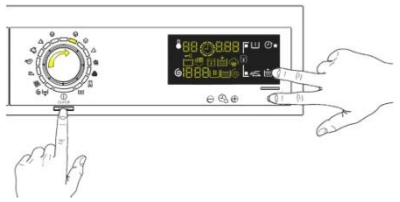
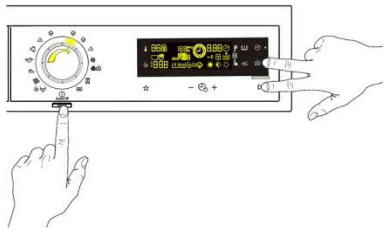
		8 Levels		8 Levels		4 Levels		4 Levels	
	TM index	COTTON		SYNTHETICS		DELICATES		ECONOMY	
		Option	Segments	Option	Segments	Option	Segments	Option	Segments
Shortest cycle	TM1	TM1		TM1		------	------	------	------
	TM2	TM2		TM2		TM2		------	------
	TM3	TM3		TM3		------	------	------	------
	TM4	TM4		TM4		TM4		TM4	
	TM5	TM5		TM5		------	------	------	------
	TM6	TM6		TM6		TM6		------	------
	TM7	TM7		TM7		------	------	------	------
Longest cycle	TM8	TM8		TM8		TM8		------	------

Cooling
Default Level
Eco Level

5 DIAGNOSTICS SYSTEM

5.1 Accessing diagnostics

The operations listed below must be carried out within 7 seconds.

TC3	TC2
	

<u>**Do not start the procedure with your fingers over the combination sensors**</u>

1. Switch on the appliance using the ON/OFF button. The first LED lights up.
2. Touch the **START/PAUSE** and the nearest **option sensor** simultaneously (as shown in the figure).
3. Hold your fingers over the sensors until the LEDs and symbols begin to flash in sequence (approximately 3 seconds).

In the first position, the operation of the sensors, the LEDs and the groups of symbols shown on the LCD display is checked;

For the TC3 and TC2 styling:
When the programme selector is turned in a **clockwise direction**, operation of the various components is diagnosed and the alarms are read (see diagnostic test on the next page).

5.2 Quitting the diagnostics system

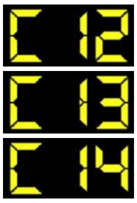
→ To exit the diagnostic cycle, switch the appliance off, then back on and then off again.

5.3 Phases of the diagnostics test

5.3.1 TC3 – TC2 styling

Irrespective of the type of PCB and the configuration of the programme selector, after entering the diagnostic mode, turn the programme selector dial **clockwise** to perform the diagnostic cycle for the operation of the various components and to read any alarms.
Concurrently, a selector control code is shown on the LCD display, which indicates for **two** seconds the description in the last column of the table below.
(All alarms are enabled in the diagnostic cycle.)

Selector position		Components activated	Working conditions	Function tested	LCD display
1		- The LEDs, groups of symbols in the LCD screen and the backlight of the display are turned on in sequence - Touch a sensor to turn on the group of icons in the LCD screen or the corresponding LED and the buzzer sounds at the same time	Always active	User interface functioning	
2		- Door safety interlock - Wash solenoid valve	Door closed Water level below anti-flooding level Maximum time 5 min.	Water fill to wash compartment	 Water level in the tub (mm)
3		- Door safety interlock - Pre-wash solenoid valve	Door closed Water level below anti-flooding level Maximum time 5 min.	Water fill to pre-wash compartment	 Water level in the tub (mm)
4		- Door safety interlock - Solenoid valve pre-wash and wash	Door closed Water level below anti-flooding level Maximum time 5 min.	Water fill to conditioner compartment	 Water level in the tub (mm)
5		- Door safety interlock - Third solenoid valve	Door closed Water level below anti-flooding level Maximum time 5 min.	Water fill to third solenoid valve compartment	 Water level in the tub is displayed (mm)
6		- Door safety interlock - Fourth solenoid valve (hot water where featured)	Door closed Water level below anti-flooding level Maximum time 5 min.	Water fill to fourth solenoid valve compartment	 Water level in the tub is displayed (mm)
7		- Door safety interlock - Wash solenoid valve, if the water in the tub is not enough to cover the heating element - Heating element - Weight sensor (if there is one, an extra litre of water is loaded) - Circulation pump	Door closed Water level above the heating element. Maximum time 10 min. or up to 90°C **(*)**	Reheating Circulation	 Temperature in °C measured using the NTC probe

8		- Door safety interlock - Wash solenoid valve, if the water in the tub is not enough to cover the heating element - Motor (55 rpm clockwise, 55 rpm anti-clockwise, 250 rpm pulse)	Door closed Water level above the heating element	Check for leaks from the tub	 Drum speed in rpm/10
9		- Door safety interlock - Drain pump - Motor up to 650 rpm then at maximum spin speed (**)	Door closed Water level lower than anti-boiling level for spinning	Drain, calibration of analogue pressure switch and spin	 Drum speed in rpm/10
10		- Drum rotation motor - door fastening device - Drum position sensor DSP	Door closed	Check the correct position of the drum via DSP	
11		- Reading/deleting the last alarm	-----	----	
12 ÷ 14		- The LEDs, groups of symbols in the LCD screen and the backlight of the display are turned on in sequence - Touch a sensor to turn on the group of icons in the LCD screen or the corresponding LED and the buzzer sounds at the same time	Always active	User interface functioning	

(*) In most cases, the established time is sufficient to check the heating. However, the time can be increased by repeating the phase without draining the water: pass for a moment to a different phase of the diagnostic cycle and then back to the heating control phase (if the temperature is higher than 80°C, heating does not take place).
(**) The check at the maximum speed occurs without control of the A.G.S. and no garments must be inside the appliance.

5.3.1 ALARMS

5.4 Displaying the alarms to the user

When a problem occurs in the appliance, the LCD display shows a “WARNING”:

– In stylings TC3 and TC2 with a code (in the three digits, where the time until the end of the cycle is represented).
– In styling TC1, a message is shown (in the text line).

This information ceases to be displayed when the problem is repaired/solved. The buzzer then emits a sound (three short “beeps”every 20” for 5 minutes). This does not occur for alarm EH0.

TC3	TC2
	

The alarms displayed to the user are listed below and can also be eliminated by the user:

TC3/TC2	TC1
E10 – Water fill difficulty (tap closed)	Check the tap
E20 – Drain difficulty (filter dirty)	Check the drain filter
E40 – Door open	Check the door
EF0 – Excessive detergent	Excessive detergent
EH0 – Voltage or frequency outside normal values	Unstable frequency or voltage

While the alarm listed below:

TC3/TC2	TC1
EF0 – Water leakage (Aqua Control System)	Caution: water

The intervention of a service engineer is required to resolve this.

The other alarms are displayed by a code.

The alarms are enabled during the execution of the washing programme. With the exception of alarms associated with the configuration and the power supply voltage/frequency, which are also displayed during the programme selection phase.

The door can normally be opened (except where specified) when an alarm condition has occurred, on condition that:

- The water in the tub is below a certain level.
- The water temperature is lower than 55°C.
- The motor has stopped.

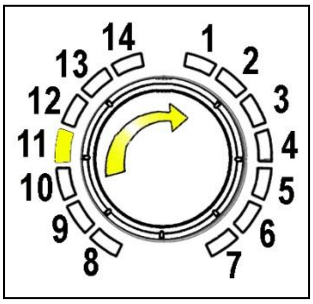
Certain alarm conditions require a drain phase to be performed before the door can be opened for safety reasons:

- Cooling water fill if the temperature is higher than 65°C.
- Drain until the analogue pressure switch is on “empty”, within a max. time of 3 minutes.

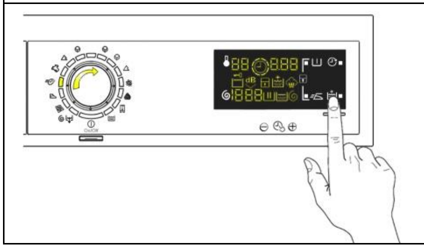
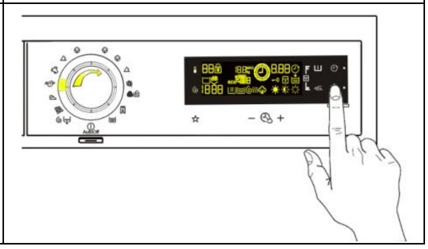
5.5 Reading the alarms

The last three alarms stored in the FLASH memory of the PCB can be displayed:

5.5.1 TC3 – TC2 styling



- Enter the diagnostic mode (para. 7.1).
- Irrespective of the type of PCB and configuration, turn the programme selector knob **clockwise** to the **eleventh position**, the last alarm will be displayed.
- To display previous alarms, touch the sensor closest to the START/PAUSE sensor in sequence (as shown in the figure).
- To return to the last alarm, touch the START/PAUSE sensor.

TC3	TC2
	

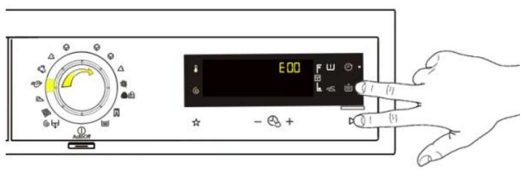
5.6 Rapid reading of alarms

It is possible to display the last alarm even if the selector is not in the eleventh diagnostics position or if the appliance is in normal operating mode (for example when performing a wash programme):
→ Touch the **START/PAUSE** sensor and the nearest **option sensor** simultaneously (as if you were entering DIAGNOSTIC mode) and hold for at least 2 seconds: the LCD display shows the last alarm.
→ The alarm will continue to be displayed until a sensor is touched.
→ The alarm reading system is as described in para. 8.2.
→ While the alarm is displayed, the appliance continues to carry out the cycle, or if it is are in the programme selection phase, it retains the options selected previously in memory.

5.7 Deleting the last alarm

It is good practice to cancel the alarms stored:

- After reading the alarm codes, to check whether the alarm re-occurs during the diagnostic cycle.
- After repairing the appliance, to check whether it re-occurs during testing.

<table>
<tr><th>TC3</th><th>TC2</th></tr>
<tr><td>
</td><td>
</td></tr>
<tr><td colspan="2">1. Enter the diagnostic mode (para. 7.1).
2. Turn the selector clockwise until the eleventh LED lights up.
3. Touch the START/PAUSE and the nearest option sensor simultaneously (as shown in the figure).
4. Keep your fingers over the sensors until the LCD display shows “E00” (at least 5 seconds).</td></tr>
</table>

N.B. With this operation all the alarms stored are deleted.

6 OPERATING TIME COUNTER

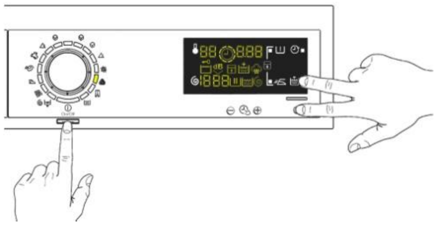
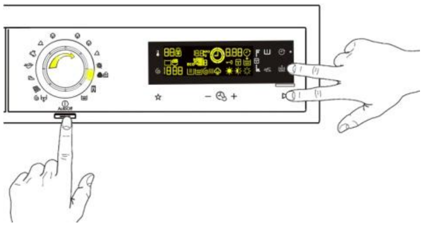
Using a specific procedure, the operator can display the total operating time for the appliance, which is counted from the moment it is first switched on.
The unit can count up to a maximum of **6,550** hours of operating time.

- Only the operating time of <u>normal programmes</u> (and not diagnostic cycles) is counted.
- The <u>actual operating time</u> for the cycle is counted (which does not include pauses, delayed start time, rinse hold time and soaking phases).
- The precision of the counter is 30 seconds per programme.
- Only whole <u>hours of operation</u> are counted (1 hr and 59 min = 1 hr).

6.1 Reading the operating time

6.1.1 TC3 – TC2 stylings

The operations listed below must be carried out within 7 seconds.

TC3	TC2
	

<u>Do not start the procedure with your fingers over the combination sensors</u>

1. Switch on the appliance using the ON/OFF button.
2. Turn the selector clockwise until the **fifth** LED lights up.
3. Touch the **START/PAUSE** and the nearest **option sensor** simultaneously (as shown in the figure).
4. Keep your fingers over the sensors until the hours of operation appear on the display (at least 5 seconds).

6.2 Display of total operating time

This time is displayed with a sequence of two digits at a time: the first two digits indicate thousands and hundreds, the second two digits indicate tens and units.
For example, if the operating time is **6,550** hours, the display will show the following sequence:

	Phase 1	Phase 2	Phase 3
	For <u>two seconds</u>, the following is displayed: Hr	For <u>two seconds</u>, the following digits are displayed: ↳ thousands (**6**) ↳ hundreds (**5**)	For the next <u>two seconds</u> the following digits are displayed: ↳ tens (**5**) ↳ units (**0**)
<u>TC</u> <u>3/2/1</u>			

At the end of phase three (after the tens and units are displayed), the cycle is repeated.
To return to normal mode, either: switch the appliance off or press a button or turn the selector knob.

7 OPTIONS

7.1 Compatibility between options

		OPTIONS																			
		Rinse hold	**Night cycle**	**Pre-wash/Soak (*)**	**Stains**	**Extra-rinse**	**Easy-iron**	**Economy**	**TM 8 (Intensive)**	**TM 7 (Normal)**	**TM 6 (Daily)**	**TM 5 (Light)**	**TM 4 (Quick)**	**TM 3 (Super Quick)**	**TM 2**	**TM1**	**Aquasol**	**Max steam**	**Medium steam**	**Minimum steam**	**Drying**
Compatibility with OPTIONS	**Rinse hold**	■		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
	Night cycle		■	X	X	X		X		X	X	X	X	X	X	X	X	X	X	X	
	Pre-wash/Soak (*)	X	X	■	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Stains	X	X	X	■	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Super rinse	X	X	X	X	■	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Easy-iron	X		X	X	X	■	X	X	X	X	X	X	X	X	X	X	X	X	X	
	Economy	X	X	X	X	X	X	■					X				X	X	X	X	X
	TM 8 (Intensive)	X	X	X	X	X	X		■								X	X	X	X	X
	TM 7 (Normal)	X	X	X	X	X	X			■							X	X	X	X	X
	TM 6 (Daily)	X	X	X	X	X	X				■						X	X	X	X	X
	TM 5 (Light)	X	X	X	X	X	X					■					X	X	X	X	X
	TM 4 (Quick)	X	X	X	X	X	X	X					■				X	X	X	X	X
	TM 3 (Super Quick)	X	X	X	X	X	X							■			X	X	X	X	X
	TM 2	X	X	X	X	X	X								■		X	X	X	X	X
	TM1	X	X	X	X	X	X									■	X	X	X	X	X
	Aquasol	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	■				
	Max steam	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		■			
	Medium steam	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			■		
	Minimum steam	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				■	
	Drying			X	X	X		X	X	X	X	X	X	X	X	X	X				■
Phases where selection/ modification is possible	**Selection**	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Pre-wash	X	X			X	X										X	X	X	X	
	Wash	X	X			X	X										X	X	X	X	
	Rinses	X																			
	Spin																				

(*) Pre-wash and Soak exclude each other

Pre-wash+Stains and Soak+Stains are compatible with one another depending on the detergent dispenser used.

- The delayed start is compatible with all programmes except for Drain; the maximum time selectable is 20 hours.
- The selection of the spin cycle is available for all programmes, except for Drain/Soak/Extra Silent.

7.2 Description of options

- **Rinse hold**

→ During the cycle the intermediate rinses and spins are performed.
→ Stops the appliance with water in the tub before the final spin cycle.
→ To drain the water, simply press the START/PAUSE button to run the drain and spin cycles.

- **Pre-wash**

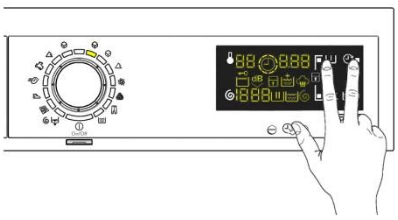
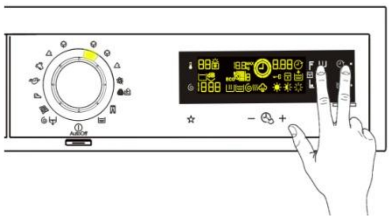
→ Adds a pre-wash phase at the start of the cycle with water heating to 30°C (or cold, if selected).
→ In COTTON and SYNTHETICS cycles, performs a short spin before passing on to the washing phase.
→ This option cannot be selected for WOOL and HAND WASH cycles.

- **Pre-wash**

→ Adds a pre-wash phase with heating to 30°C (or cold, if selected) plus 30’ hold with HAND WASH movement.
→ Completes the cycle.

- **EXTRA-rinse**

→ Add **two** rinses to the cycles where featured.
→ Eliminates the spin at the end of washing.

<table>
<tr><td colspan="2">ENABLING/DISABLING EXTRA RINSE USING A COMBINATION OF SENSORS</td></tr>
<tr><td colspan="2">Appliances which do not envisage the SUPER RINSE option combined with a button can enable it through a sensor combination.</td></tr>
<tr><td>TC3</td><td>TC2</td></tr>
<tr><td></td><td></td></tr>
<tr><td colspan="2">During the selecting phase, touch the two sensors shown in the figure simultaneously for a few seconds until the related icon lights up. This option also remains enabled during subsequent cycles. To disable it, repeat the same operation until the related icon is turned off.</td></tr>
</table>

- **No spin**

→ It eliminates <u>all</u> the spin phases.
→ It adds three rinses to the COTTON CYCLE and one to the SYNTHETIC FABRICS cycle.

- **Daily**

→ Modifies the structure of the COTTON - SYNTHETIC FABRICS - DELICATES cycles to obtain good washing performance in a variable amount of time.

- **Super quick**

→ Modifies the structure of the wash phase of the COTTON - SYNTHETIC FABRICS - DELICATES cycles by half a load.

- **Delayed start time**

→ Adds a pause before the start of the programme. The delay time is shown on the three digit display
→ During the programme selection phase, a delayed start can be selected, from 30' to 20 hours (30' ☞ 60' ☞ 90' ☞ 2h ☞ 3h... ☞ 20h ☞ 0h) and the time is shown on the Display. During the last hour the time decreases minute by minute.
→ To start the cycle immediately after the countdown to the delayed start has already begun: press the Start/Pause button, cancel the delay time by pressing the relevant button, then press Start/Pause again.

- **Easy-iron**

→ In COTTON programmes:
  - adds **three** rinse cycles
  - eliminates intermediate spin cycles
  - performs a pulse spin phase before the final spin
  - adds an "untangling" phase after the spin cycle

→ In SYNTHETIC FABRICS programmes:
  - it reduces the heating temperature in 50/60°C cycles to 40°C
  - increases the wash time
  - prolongs the cooling phase at the end of the wash phase
  - adds **one** rinse cycle
  - adds an "untangling" phase after the pulse spin cycle

- **Hot & Cold Water** (only for TC3 styling with pre-set connection)

→ Touch this sensor to select.

8 ALARM SUMMARY TABLE

ALARM CODE	Description	Possible fault	Machine status/action	Reset
E11	Water fill difficulty during washing	▪ Tap closed. ▪ Water pressure too low. ▪ Drain pipe improperly positioned. ▪ Water fill solenoid valve faulty. ▪ Leaks from pressure switch water circuit. ▪ Pressure switch faulty. ▪ Faulty wiring. ▪ Main circuit board faulty.	Cycle is paused with door locked	START/RESET
E13	Water leaks	▪ Drain pipe improperly positioned. ▪ Water pressure too low. ▪ Water fill solenoid valve faulty. ▪ Leaks/clogging of pressure switch water circuit. ▪ Pressure switch faulty.	Cycle is paused with door locked	START/RESET
E21	Drain difficulty during washing	▪ Drain tube kinked/clogged/improperly positioned. ▪ Drain filter clogged/dirty. ▪ Faulty wiring. ▪ Pressure switch faulty. ▪ Drain pump rotor blocked. ▪ Drain pump faulty. ▪ Main circuit board faulty.	Cycle is paused (after 2 attempts)	START ON/OFF RESET
E22	Drain difficulty during drying	▪ Drain pipe kinked/clogged/improperly positioned. ▪ Drain filter clogged/dirty. ▪ Faulty wiring. ▪ Drain pump faulty. ▪ Pressure switch faulty. ▪ Main PCB faulty.	Cycle is paused	START/RESET
E23	Faulty TRIAC for drain pump	▪ Faulty wiring. ▪ Drain pump faulty. ▪ Main circuit board faulty.	Safety drain cycle - Cycle stops with door open	RESET
E24	Drain pump TRIAC “sensing” circuit faulty	▪ Main circuit board faulty.	Safety drain cycle - Cycle stops with door unlocked	RESET

ALARM CODE	Description	Possible fault	Action Machine status	Reset
E31	Malfunction in electronic pressure switch circuit	▪ Wiring; Electronic pressure switch. ▪ Main electronic circuit board.	Cycle stops with door locked	RESET
E32	Calibration error of the electronic pressure switch	▪ Drain tube kinked/clogged/improperly positioned. ▪ Solenoid valve faulty. ▪ Drain filter clogged/dirty. ▪ Drain pump faulty. ▪ Leaks from pressure switch water circuit. ▪ Pressure switch faulty. ▪ Wiring; main circuit board.	Cycle is paused	START/RESET
E35	Overflow	▪ Water fill solenoid valve faulty. ▪ Leaks from pressure switch water circuit. ▪ Faulty wiring. ▪ Pressure switch faulty. ▪ Main circuit board faulty.	Cycle interrupted Safety drain cycle Drain pump continues to operate (5 mins. on, then 5 mins. off, and so on)	RESET
E38	Internal pressure chamber is clogged (water level does not change for at least 30 sec. of drum rotation)	▪ Motor belt broken. ▪ Pressure switch hydraulic circuit clogged.	Heating phase is skipped	RESET

ALARM CODE	Description	Possible fault	Action Machine status	Reset
E41	Door open	▪ Check whether the door is closed properly. ▪ Faulty wiring. ▪ Door safety interlock faulty. ▪ Main circuit board faulty.	Cycle is paused	CLOSE THE DOOR
E42	Problems with door lock	▪ Faulty wiring. ▪ Door safety interlock faulty. ▪ Electrical current leak between heating element and ground. ▪ Main circuit board faulty.	Cycle is paused	START/RESET
E43	Faulty triac supplying power to door delay system	▪ Faulty wiring. ▪ Door safety interlock faulty. ▪ Main circuit board faulty.	Safety drain cycle Cycle blocked	RESET
E44	Faulty “sensing” of door delay system	▪ Main circuit board faulty.	Safety drain cycle Cycle blocked	RESET
E45	Faulty sensing by door delay system TRIAC	▪ Main circuit board faulty.	Safety drain cycle Cycle blocked	RESET

ALARM CODE	Description	Possible fault	Action Machine status	Reset
E52	No signal from motor tachometric generator	▪ Faulty wiring. ▪ Motor faulty. ▪ Inverter board faulty.	Cycle blocked with door locked after 5 attempts	ON/OFF RESET
E57	Inverter is drawing too much current (>15 A)	▪ Motor-inverter wiring faulty. ▪ Inverter board faulty. ▪ Motor faulty.	Cycle blocked with door locked after 5 attempts	ON/OFF RESET
E58	Inverter is drawing too much current (>4.5 A)	▪ Abnormal motor operation (overload). ▪ Motor-inverter wiring faulty. ▪ Motor faulty. ▪ Inverter board faulty.	Cycle blocked with door locked after 5 attempts	ON/OFF RESET
E59	No signal from tachometric generator for 3 seconds	▪ Motor-inverter wiring faulty. ▪ Inverter board faulty. ▪ Motor faulty.	Cycle blocked with door locked after 5 attempts	ON/OFF RESET
E5A	Overheating on heat dissipater for inverter	▪ Overheating caused by continuous operation or ambient conditions (let appliance cool down). ▪ Inverter board faulty.	Cycle blocked with door locked after 5 attempts	ON/OFF RESET
E5C	Input voltage is too high	▪ Input voltage is too high (measure the grid voltage). ▪ Inverter board faulty.	Cycle blocked with door locked after 5 attempts	ON/OFF RESET
E5D	Data transfer error between inverter and main PCB	▪ Line interference. ▪ Faulty wiring. ▪ Main board or Inverter board faulty.	----------------	ON/OFF RESET
E5E	Communication error between inverter and main PCB	▪ Faulty wiring. ▪ Control/display circuit board faulty. ▪ Inverter board faulty. ▪ Weight sensor board faulty. ▪ WD board faulty. ▪ Main circuit board faulty.	Cycle blocked after 5 attempts	ON/OFF RESET
E5F	Inverter PCB fails to start the motor	▪ Faulty wiring. ▪ Inverter board faulty. ▪ Main board faulty.	Cycle blocked with door locked after 5 attempts	ON/OFF RESET
E5H	Input voltage is lower than 175 V	▪ Faulty wiring. ▪ Inverter board faulty.	Cycle blocked with door locked after 5 attempts	ON/OFF RESET

ALARM CODE	Description	Possible fault	Action Machine status	Reset
E61	Insufficient heating during the washing phase	▪ Faulty wiring. ▪ NTC probe for wash cycle faulty. ▪ Heating element faulty. ▪ Main circuit board faulty.	The heating phase is skipped	START/RESET
E62	Overheating during washing phase (temperature higher than 88°C for more than 5 min.)	▪ Faulty wiring. ▪ NTC probe for wash cycle faulty. ▪ Heating element faulty. ▪ Main circuit board faulty.	Safety drain cycle Cycle stops with door open	RESET
E66	Heating element power relay faulty (inconsistency between sensing and relay status)	▪ Main circuit board faulty.	Safety water fill Cycle stops with door closed	ON/OFF RESET
E68	Current leak to the ground	▪ Current leakage between heating element and ground.	The heating phase is skipped	START/RESET
E69	Heating element interrupted	▪ Faulty wiring. ▪ Heating element for washing interrupted (thermal fuse open). ▪ Main circuit board faulty.	----------------	START ON/OFF RESET
E6A	Heating relay sensing faulty	▪ Main circuit board faulty.	Cycle stops with door locked	RESET
E6H	Heating element power relay faulty (inconsistency between sensing and relay status)	▪ Faulty wiring. ▪ Current leakage between heating element and ground. ▪ Main circuit board faulty.	Safety water fill Cycle stops with door closed	ON/OFF RESET

ALARM CODE	Description	Possible fault	Action Machine status	Reset
E71	NTC probe for wash cycle faulty (short-circuited or open)	▪ Faulty wiring. ▪ NTC probe for wash cycle faulty. ▪ Main circuit board faulty.	The heating phase is skipped	START/RESET
E72	Fault in NTC sensor on drying condenser (voltage out of range, short-circuit or open circuit)	▪ Faulty wiring. ▪ Drying NTC sensor (condenser) improperly positioned or faulty. ▪ WD circuit board faulty.	The heating and drying phase is skipped	START/RESET
E73	Fault in NTC sensor on drying duct (voltage out of range, short-circuit or open circuit)	▪ Faulty wiring. ▪ Drying NTC sensor (duct) improperly positioned or faulty. ▪ WD circuit board faulty.	Drying heating phase skipped	START/RESET
E74	NTC probe for wash cycle improperly positioned	▪ Faulty wiring. ▪ NTC probe for wash cycle improperly positioned. ▪ NTC probe faulty. ▪ Main circuit board faulty.	The heating phase is skipped	RESET

E83	Error in reading selector	▪ Main circuit board faulty. ▪ Incorrect configuration data.	Cycle cancelled	START/RESET
E86	Selector configuration error	▪ Incorrect configuration of display board.	----------------	START ON/OFF RESET
E87	Display board microprocessor faulty	▪ If this continues, replace the display board.	No action to be taken	START ON/OFF RESET

ALARM CODE	Description	Possible fault	Action Machine status	Reset
E91	Communication error between main PCB and display board	▪ Faulty wiring. ▪ Control/display circuit board faulty. ▪ Main circuit board faulty.	----------------	RESET
E92	Communication inconsistency between main PCB and display board (incompatible versions)	▪ Incorrect control/display board. ▪ Incorrect PCB (does not correspond to the model).	Cycle blocked	ON/OFF
E93	Appliance configuration error	▪ Main circuit board faulty. ▪ Incorrect configuration data.	Cycle blocked	ON/OFF
E94	Incorrect configuration of washing cycle	▪ Main circuit board faulty. ▪ Incorrect configuration data.	Cycle blocked	ON/OFF
E97	Inconsistency between programme selector and cycle configuration	▪ Main circuit board faulty. ▪ Incorrect configuration data.	Cycle blocked	RESET
E98	Communication error between main PCB – inverter	▪ Incompatibility between main PCB and inverter.	Cycle blocked	ON/OFF
E9C	Display board configuration error	▪ Display board faulty.	----------------	START ON/OFF RESET
E9E	Display board touch sensor faulty	▪ Display board faulty.	----------------	ON/OFF

EA1	No drum position signal made	▪ DSP sensor faulty. ▪ Transmission belt broken. ▪ Main circuit board faulty. ▪ Faulty wiring.	Drum positioning cycle cancelled	START/RESET
EA6	No signal from the DSP during motor activation	▪ DSP sensor faulty. ▪ Transmission belt broken. ▪ Main circuit board faulty. ▪ Faulty wiring.	Cycle paused	START RESET

ALARM CODE	Description	Possible fault	Action Machine status	Reset
EC1	Electronically controlled valve blocked with operating flowmeter	▪ Faulty wiring. ▪ Solenoid valve faulty/blocked. ▪ Circuit board faulty.	Cycle stops with door locked Drain pump continues to operate (5 mins. on, then 5 min. off, and so on)	RESET
EC2	Data transfer error between Weight sensor and main PCB	▪ Faulty wiring. ▪ Weight sensor faulty. ▪ Circuit board faulty.	----------------	START/RESET
EC3	Problems with weight sensor (no signal or outside the limits)	▪ Faulty wiring. ▪ Weight sensor faulty. ▪ Main board faulty.		
EF1	Drain filter clogged (drain phase too long)	▪ Drain filter clogged/dirty. ▪ Drain hose blocked/kinked/too high.	Warning displayed at the end of cycle	START/RESET
EF2	Overdosing of detergent (too much foam during drain phases)	▪ Excessive detergent dosing. ▪ Drain hose kinked/blocked. ▪ Drain filter clogged/dirty.	Warning displayed after 5 attempts or by the specific LED	RESET
EF3	Aqua control system intervention	▪ Water leaks onto base frame. ▪ Aqua control device faulty.	Appliance drains	ON/OFF RESET
EF4	Water fill pressure too low, no signal from flowmeter and electronically controlled valve is open	▪ Tap closed. ▪ Water fill pressure too low.	----------------	RESET
EF5	Unbalanced load	▪ Final spin phases skipped.	----------------	START/RESET
EF6	Reset	▪ If it continues, replace the main board.	----------------	----------------

ALARM CODE	Description	Possible fault	Action Machine status	Reset
EH1	Appliance power supply frequency out of limits	▪ Problem with the power supply network (incorrect/disturbed). ▪ Main circuit board faulty.	Wait for nominal frequency conditions	ON/OFF
EH2	Supply voltage too high	▪ Problem with the power supply network (incorrect/disturbed). ▪ Main circuit board faulty.	Wait for nominal voltage conditions	ON/OFF
EH3	Supply voltage too low	▪ Problem with the power supply network (incorrect/disturbed). ▪ Main circuit board faulty.	Wait for nominal voltage conditions	ON/OFF

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